32. (amended) The system according to Claim 31 wherein said polarization parameter is the degree of rotation of the polarization of said returned light.

33. (amended) The system according to Claim 31 wherein said polarization parameter is a function of the differential circular dichroism or optical activity of the returned light.

34. (amended) A method for imaging a section of a medium which receives and returns light from the section and from sites adjacent to the section, said method comprising the steps of:

directing light in beams of different polarization in said medium along an imaging plane inside the medium;

collecting returned light from the medium; and

generating an image of the section from said returned light in response to a polarization parameter of said returned light.

35. (amended) The method according to Claim 34 wherein said beams are overlapping in said medium outside the image section to reduce the part of said returned light from the sites adjacent said section on opposite sides of said section in the direction of propagation of said beams.

36. (amended) The method according to Claim 35 wherein said beams are incident said medium at spots spaced in at least one direction along an imaging plane.

37. (amended) The method according to Claim 36 wherein said polarization parameter is the degree of rotation of the polarization of said returned light.

38. (amended) The method according to Claim 36 wherein said polarization parameter is a function of the differential circular dichroism or optical activity of the returned light.

39. (amended) An optical coherence imaging system comprising:

a source providing light which is of low coherence;

optics which directs the light from said source into a reference arm and a sample arm to an image plane inside a specimen section;

a polarization separator which shears said light into two beams;

a polarization retarder between said separator and said specimen providing said sheared beams each with an opposite sense of generally orthogonal polarization;

an objective for focusing said two beams at spots spaced from each other in said image plane, which beams overlap in said section outside the vicinity of said image plane and on opposite sides of said plane in the direction of propagation of said beams;

a detection arm into which light is directed by said beam splitter from said reference and sample arms; and

means for providing images in response to interference of light in said detection arm which images are enhanced by reduction of light from said vicinity.

Remarks

A Notice of Appeal (in triplicate), and a Request for a Two-Month Extension of Time with a check in the amount of $200.00 accompany this Amendment. If this Amendment is entered and the claims allowed, this Appeal becomes moot.

The claims in this case have been rejected as anticipated by two substantially identical IBM patents to Barenboim et al. and Bou-Ghannam et al. and also patents to Ooki et al. and Smith ('884).

The claims define where the image is taken and where the beams overlap so as to reduce the effect of unwanted light from sites, adjacent to the section of interest, from which light returns, thereby enhancing the image. Note that enhancement of the image is obtained by destructive interference from sites containing scatterers in the turbid specimen medium outside (above and below) where the image is taken (see Abstract, first 6 lines and paragraph bridging pages 7 and 8). The claims make it clear that imaging in Applicant's case occurs inside the medium and that adjacent as regards to the sites is defined to be above and below the imaged section.